The 2001 British Columbia Seafood Industry Year in Review

BC Ministry of Agriculture, Food and Fisheries

POISED FOR GROWTH

The seafood industry is comprised of three principal economic components: commercial fishing, aquaculture and seafood processing. In 2001, harvests from commercial fishing and aquaculture totalled 256 thousand tonnes with a landed value of $644 million while finished seafood products generated more than $1 billion wholesale. British Columbia's seafood exports increased 8 per cent in 2001, to $974 million. Fish and shellfish products were shipped to 39 countries. In total, the industry contributes more than $1 billion in revenues to the provincial economy and accounts for more than $380 million in Gross Domestic Product annually.

Production and values of British Columbia seafood are influenced by a variety of factors. Fluctuations in wild fish populations, competition in the marketplace, the degree to which raw material is value-added and downturns in the economies of countries that are traditional markets all affect the amount of fish landed and its landed and wholesale value. Despite these influences - including dramatic declines in wild salmon since the early 90's - the Province's seafood industry has maintained an annual value in excess of one billion dollars wholesale (finished seafood products) through innovation, value-added, greater product recovery, new product development and aquaculture. The seafood industry continues to make a significant contribution to the coastal economy and British Columbia remains a preferred source of quality seafood.

The transition from a production-driven to a market-driven industry continues. The industry is poised for growth through a focus on factors such as product quality, value-added and market responsive service.

Sportfisheries are also strong contributors to the provincial economy. Their role is detailed in the publication *British Columbia's Fisheries and Aquaculture Sector* on the Ministry of Agriculture, Food and Fisheries web site along with other industry reports and statistics *(http://www.agf.gov.bc.ca/fish_stats/statistics.htm)*

2001 BY SECTOR

British Columbia Wild and Farmed Seafood Production

	WHOLESALE VALUE ... $ Millions ...			LANDED VALUE ... $ Millions ...			LANDINGS ... '000 Tonnes ...		
	2001[E]	2000[P]	1999[P]	2001[E]	2000[P]	1999[P]	2001[E]	2000[P]	1999[P]
Wild	693.1	707.9	656.5	358.1	366.9	311.5	180.2	144.2	205.5
Farmed	318.1	348.6	352.4	286.6	292.1	301.4	76.6	56.0	56.2
Grand Total	**1,011.2**	**1,056.5**	**1,008.9**	**644.7**	**659.0**	**612.9**	**256.8**	**200.2**	**261.7**

E Estimates
P Preliminary

Commercial Fishing

In 2001, 70 per cent of all fish harvested in British Columbia came from the domestic commercial fleet participating in near- and off-shore fisheries. The 2001 season's harvest was up 25 per cent from the previous year, to 180 thousand tonnes while the landed value was down slightly to $358 million. The commercial fishing sector works to maintain the wild resource by adopting new allocation and fisheries harvest strategies while continuing to refine on-board handling techniques to increase the value of the catch.

Aquaculture

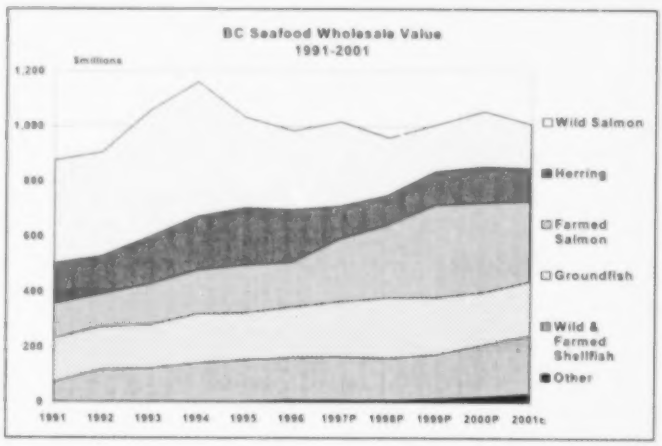
The aquaculture sector is a significant contributor to the provincial seafood industry. Thirty per cent of all fish and shellfish harvested in British Columbia is produced in aquaculture facilities. In 2001, the combined farmed salmon, trout and shellfish harvest was up 37 per cent to 77 thousand tonnes. The overall value of the sector declined to $287 million in farmgate value and $318 million in wholesale value due to depressed prices for farmed salmon.

Seafood Processing

One hundred and ninety-five facilities were licensed to process seafood in British Columbia in 2001. These plants are operated by 179 separate companies, many of whom operate facilities in more than one area of the province to be close to fishing grounds or to distribution centres. Processing occurs in three primary regions of British Columbia: Prince Rupert, Vancouver Island and the Lower Mainland.

This crucial part of the provincial seafood sector has had to respond to many changes in fish supplies and in regulations. The Canadian Food Inspection Agency has developed stringent processing and handling guidelines for processors. New food quality and safety programs have enabled our processors to produce seafood that is in demand on a global scale.

The processing sector has embraced new species, new products and new sources of raw product in a move towards increased value and yields. In 2001, wild salmon, farmed salmon, halibut, herring, tuna and shellfish were all imported for value-added processing to augment the domestic supplies.



SEAFOOD PRODUCTION SYNOPSIS

Wild Salmon

The 2001 wild salmon harvest was up 21 per cent over 2000 levels to 22,900 tonnes. The value of the harvest fell 34 per cent to $33 million in part due to the species mix of the catch, which was made up of 70 per cent lower-valued pink and chum and 30 per cent sockeye, chinook and coho. The wholesale value of processed products was down 20 per cent to $160 million in 2001 from $200 million in 2000.

SOCKEYE

At 6,200 tonnes, sockeye made up 27 per cent of the wild salmon harvest by weight in 2001. This season's harvest of sockeye was 25 per cent lower than the previous year. The lower harvest and slightly lower prices paid to fishers translated into a 50 per cent drop in the total landed value for sockeye to $21 million. Even with lower prices, sockeye sales contributed 62 per cent of the total value of the wild salmon harvest. Sockeye products (including those from imported sources) generated close to $75 million in wholesale value in 2001.

CANNED SALMON

Canned salmon production held steady in 2001 with a total pack of 650,000 48-pound cases produced from 22,100 tonnes of raw product. Canned salmon, including added-value specialty canned items such as paté and skinless-boneless salmon, generated $70 million representing a 43 per cent share of the total wholesale value of all wild salmon products.

Domestic sources of wild salmon contributed 63 per cent of the pack. Seventy-five per cent of all salmon canned in the province for the 2001 season was pink salmon. The six major canneries also accessed over 8,300 tonnes of salmon from Alaska and Russia, which contributed 37 percent of the total canned salmon production for the season. Wholesale revenues from the imported canned salmon are estimated at $15 million dollars.

PINK

Pink salmon dominated the wild salmon industry this year. The 2001 pink salmon harvest was 10,600 tonnes, up from the 7,100 tonnes caught in 2000. Pinks contributed 46 per cent of the total salmon catch by volume but less than 13 per cent of the total wild salmon landed value. Continued low prices resulted in only $4.2 million in landed value being paid to harvesters.

British Columbia canned salmon producers routed close to 90 per cent, or 9,400 tonnes, of the domestic pink harvest to canned products. With additional value coming from 5,700 tonnes of canned imported pink salmon, the processing sector was able to generate a total wholesale value for all pink salmon products combined, of $43.3 million.

British Columbia Seafood Production 1999 to 2001

	WHOLESALE VALUE ... $ Millions ...			LANDED VALUE ... $ Millions ...			LANDINGS ... '000 Tonnes ...		
	2001[E]	2000[P]	1999[P]	2001[E]	2000[P]	1999[P]	2001[E]	2000[P]	1999[P]
Salmon									
Chinook	4.8	5.3	6.6	2.9	2.8	4.1	0.6	0.5	0.8
Sockeye	74.8	113.1	63.1	20.7	39.5	12.4	6.2	8.5	1.7
Coho	5.1	8.8	5.8	0.1	<.1	<.1	<.1	<.1	<.1
Pink	43.3	36.5	53.2	4.2	4.7	5.7	10.6	7.1	9.5
Chum	27.8	34.8	41.2	5.4	3.4	4.1	5.5	2.8	5.0
Subtotal[1]	160.2	200.1	170.5	33.3	50.4	26.3	22.9	18.9	17.0
Farmed Salmon	291.3	323.9	333.9	269.4	278.4	290.5	67.7	49.0	49.6
Farmed Trout	0.5	0.5	0.4	0.5	0.5	0.4	0.1	0.1	0.1
Herring									
Spawn on Kelp	11.7	12.5	9.8	9.6	10.4	7.8	0.4	0.3	0.4
Roe Herring	104.8	116.0	108.8	33.4	39.0	40.4	22.5	27.2	26.5
Food and Bait	2.5	2.8	3.4	0.2	0.7	0.4	0.2	0.2	0.2
Subtotal	119.0	131.3	122.0	43.2	50.1	48.6	23.1	27.7	27.1
Groundfish									
Halibut	49.9	61.8	61.7	37.2	42.5	38.7	4.6	4.8	5.5
Sablefish	30.6	34.1	29.0	27.8	31.0	26.8	3.6	3.7	4.3
Other Groundfish[2]	114.2	94.2	118.5	59.0	61.5	65.4	99.3	66.1	129.8
Subtotal	194.7	190.1	209.2	124.0	135.0	130.9	107.5	74.6	139.6
Shellfish									
Farmed	26.3	24.2	18.1	16.7	13.2	10.5	8.8	6.9	6.5
Wild	186.2	163.7	140.3	131.5	115.4	95.1	19.8	17.7	17.0
Subtotal	212.5	187.9	158.4	148.2	128.6	105.6	28.6	24.6	23.5
Other									
Tuna	31.3	21.6	12.7	26.0	15.7	9.7	6.6	5.0	3.7
Other	1.7	1.1	1.8	0.1	0.3	0.9	0.3	0.3	1.1
Subtotal	33.0	22.7	14.5	26.1	16.0	10.6	6.9	5.3	4.8
Grand Total	**1,011.2**	**1,056.5**	**1,008.9**	**644.7**	**659.0**	**612.9**	**256.8**	**200.2**	**261.7**

E Estimates
P Preliminary
1 The total wholesale value of wild salmon includes the value of salmon products such as offal, meal and oil which cannot be identified by species. The wholesale values of individual salmon species include the value of products derived from imported fish (e.g. almost all the coho wholesale value in 2001 is derived from the processin[illegible] imported coho).
2 Total wholesale value for other includes fishmeal and oil unidentified by species.

Groundfish

In 2001, the groundfish harvest increased 44 per cent to 107,500 tonnes reflecting the availability of hake. The landed value declined slightly to $124 million in response to decreased harvests of some of the higher-valued species such as rockfish, halibut, and sablefish.

Value-added processing and niche marketing has proven successful particularly for hake and dogfish where the value of finished products is double and triple that of the raw unprocessed fish. Overall, the 2001 wholesale value of groundfish was up slightly from 2000 levels to $195 million.

HALIBUT

Halibut continued to be the most important species in the BC groundfisheries in terms of value. At $37 million, halibut made up 30 per cent of the groundfish landed value. Similarly, halibut products, at $50 million were 26 per cent of the total wholesale value.

HAKE

British Columbia hake processors rebounded from a very poor 2000 season. For 2001, the hake fishery had a total allowable catch (TAC) for Canadian waters of 81,600 tonnes. The sharing agreement set by Fisheries and Oceans Canada allocated 50,000 tonnes to shore-based processors with the remaining catch divided between a reserve and the joint venture offshore fishery.

This important groundfish species is responsible for 28 per cent of the total commercial catch by weight. Any increase in allocation for the onshore processors results in significant gains for the province in terms of both employment and income generation. In August 2001, former Federal Fisheries Minister Herb Dhaliwal released the 15,800-tonne reserve to onshore processors for a total allocation of 65,800 tonnes or 80 per cent of the TAC.

The six primary processors generated $29.5 million in wholesale value from the surimi, mince and filleted hake products. In 2002, an agreement was reached to direct all hake onshore.

British Columbia Groundfish Production 1999 to 2001

	WHOLESALE VALUE ... $ Millions ...			LANDED VALUE ... $ Millions ...			LANDINGS ... '000 Tonnes ...		
	2001[E]	2000[P]	1999[P]	2001[E]	2000[P]	1999[P]	2001[E]	2000[P]	1999[P]
Dogfish	8.0	7.1	4.4	2.5	3.7	2.1	4.4	4.7	3.4
Hake	29.5	9.1	44.9	12.2	6.3	15.3	53.3	21.7	87.5
Halibut	49.9	61.8	61.7	37.2	42.5	38.7	4.6	4.8	5.5
Lingcod	6.9	6.3	5.2	4.2	6.5	4.5	2.2	3.0	2.3
Pacific Cod	3.0	3.4	2.7	0.6	1.2	1.1	0.5	0.7	0.8
Pollock	2.8	3.5	3.3	0.8	0.5	0.4	1.8	1.0	1.2
Rockfish	43.8	49.4	43.4	29.4	34.9	33.8	21.9	23.0	23.9
Sablefish	30.6	34.1	29.0	27.8	31.0	26.8	3.6	3.7	4.3
Soles	11.8	11.0	10.4	6.4	6.5	6.5	5.5	5.9	5.6
Turbot	4.4	1.9	1.2	2.4	1.3	1.0	8.2	4.3	3.6
Other	4.0	2.5	3.0	0.5	0.6	0.7	1.5	1.8	1.8
Total	**194.7**	**190.1**	**209.2**	**124.0**	**135.0**	**130.9**	**107.5**	**74.6**	**139.9**

E Estimates P Preliminary

Herring

The 2001 harvest of roe herring was 22,500 tonnes while spawn-on-kelp was 400 tonnes. Two primary roe herring stock management areas (Queen Charlotte Islands and West Coast of Vancouver Island) were closed to harvesting in 2001 due to low stock assessment levels. Herring prices continue to be affected by the Japanese economy. The total landed value of herring was $43 million. In 2001, the combined wholesale value of herring products was $119 million.

Farmed Salmon

Of the 121 licensed salmon farms in British Columbia, 83 were operating with fish in the water during 2001. Farm harvests of Atlantic, chinook, and coho salmon showed a dramatic 36 per cent increase over 2000 to an estimated 67,700 tonnes round weight. The wholesale value for BC farmed salmon dropped 10 per cent from $324 million in 2000 to $291 million in 2001.

With the advent of new processing and handling techniques the salmon farming sector has responded to market demands for specialty products. In addition to the traditional fresh-dressed head-on cut, clients are able to choose from three different types of fillets from several species and weight categories. Added value is also found in sales of salmon milts and roe products. The first harvest from a land-based farm took place this year. British Columbia's farmed salmon is exported primarily to the United States with shipments also destined for Taiwan, Japan, Hong Kong and China.

Tuna

The albacore tuna ranges throughout portions of the North and South Pacific and is fished by many nations. Canadian (BC) fish harvesters currently catch just over 3% of the total North Pacific harvest. In 2001, the Canadian harvest exceeded 6,400 tonnes worth an estimated landed value of $26 million. Canadians also harvest an average of 270 tonnes per year of albacore from the South Pacific. Provincial seafood processors have expanded their tuna product lines from traditional frozen forms to include smoked, canned and fresh/frozen specialty cuts primarily destined for Japan.

Shellfish

Wild Shellfish

In 2001, the British Columbia wild shellfish harvest increased 12 per cent to 19,800 tonnes. The total landed value, at $132 million, showed a 14 per cent increase primarily in the geoduck and crab fisheries. In 2001, the wholesale value of all BC wild shellfish increased 14 per cent to $186 million.

Geoduck Clams

In 2001, the geoduck harvest of 1,800 tonnes represented 6 per cent of the total provincial shellfish harvest by weight. Although landings are relatively small geoduck contributed 30 per cent of the total landed value of all shellfish. Geoduck products generated $60 million in 2001, and represented 28 per cent of the value of all British Columbia shellfish sales.

Prawns

In 2001, the prawn harvest increased 16 per cent to 1,900 tonnes. Meanwhile, the landed value remained at $30 million and the wholesale value of prawn products fell from $37 million to $35 million reflecting soft demand in the Japanese market.

Crab

Crab landings contributed one fifth of the total shellfish harvest at 5,600 tonnes with a value to the fishermen of close to $37 million. Crabs are important income generators for the fisherman/vendors as a significant amount are sold as dockside sales where the public purchases direct from the vessel.

Farmed Shellfish

Production for all farmed shellfish species saw a total harvest of 8,800 tonnes with a landed value of close to $17 million.

At 7,300 tonnes the oyster harvest made up more than 80 per cent of the provincial shellfish aquaculture harvest but generated only one half of the total landed value. By comparison, the farmed clam harvest, at 1,400 tonnes, comprised only 15 per cent of the harvest by volume but generated close to 48 per cent of the total value.

The British Columbia shellfish farming industry is diversifying from its traditional base of oysters and manila clams. Technology and markets are being developed for valuable new shellfish species such as geoduck clams, northern abalone, and savoury (varnish) clams.

British Columbia Shellfish Production 1999 to 2001

	WHOLESALE VALUE ... $ Millions ...			LANDED VALUE ... $ Millions ...			LANDINGS ... '000 Tonnes ...		
	2001[E]	2000[E]	1999[P]	2001[E]	2000[E]	1999[P]	2001[E]	2000[E]	1999[P]
Farmed									
Clams	11.6	10.8	7.3	7.9	5.9	4.7	1.4	1.0	0.9
Oysters	13.7	12.9	10.6	8.3	7.0	5.7	7.3	5.9	5.6
Scallops & Other	1.0	0.5	0.2	0.5	0.3	0.1	0.11	0.05	0.04
Subtotal	**26.3**	**24.2**	**18.1**	**16.7**	**13.2**	**10.5**	**8.8**	**6.9**	**6.5**
Wild									
Clams	9.1	8.0	8.2	6.0	4.9	5.3	1.6	1.6	1.6
Crabs	50.0	32.8	22.2	36.8	21.7	21.8	5.6	3.2	2.9
Geoducks	60.1	49.6	55.5	43.8	41.6	33.7	1.8	1.8	1.8
Scallops	0.6	0.3	0.3	0.3	0.3	0.2	0.05	0.05	0.04
Sea Cucumbers	4.6	3.2	1.9	1.9	1.7	1.1	1.1	1.0	0.9
Sea Urchins-Red	17.8	22.7	20.1	8.0	8.1	8.0	4.9	5.3	5.2
Sea Urchins-Green	1.3	1.4	1.9	0.5	1.0	1.2	0.12	0.18	0.19
Shrimp	7.2	8.0	7.5	3.9	4.3	4.4	2.4	2.6	2.6
Prawns	35.0	37.0	22.1	29.8	31.2	18.8	1.9	1.6	1.4
Other	0.5	0.7	0.6	0.5	0.6	0.6	0.3	0.4	0.4
Subtotal	**186.2**	**163.7**	**140.3**	**131.5**	**115.4**	**95.1**	**19.8**	**17.7**	**17.0**
Total	**212.5**	**187.9**	**158.4**	**148.2**	**128.6**	**105.6**	**28.6**	**24.6**	**23.5**

E Estimates P Preliminary

Seafood Outlook 2002

Farmed

Salmon and Shellfish

The outlook is positive with moderate increases expected for farmed shellfish production due to expansions in the size and number of sites. Farmed salmon production is expected to remain steady.

Wild

Shellfish

Wild shellfish harvests will fluctuate among species and the overall catch and value is expected to decline slightly due to market pressures.

SALMON AND HERRING

The 2002 wild salmon season is expected to be marginally better than last year, with increased harvests (though still low relative to historic levels) and reasonable prices. Herring harvests are expected to rise slightly while the market continues to be affected by lower product prices in the export markets.

GROUNDFISH

Harvests will show a decrease in tonnage. Hake will have a reduced quota and rockfish harvests will be significantly reduced due to conversation concerns. In addition, some non-quota species harvests are expected to increase. For some trawl species there will be stable harvests and continued good prices as the fishery has become adept at managing quotas to maximize value and quality.

British Columbia Seafood Industry 2002

	Harvest	Landed Value	Wholesale Value)
Wild Salmon	↔	↑	↑
Farmed Salmon	↔	↔	↔
Herring	↑	↔	↔
Halibut	↑	↑	↑
Groundfish	↓	↓	↓
Wild Shellfish	↔	↓	↓
Farmed Shellfish	↑	↑	↑
Other Species	↔	↔	↔
Total BC	↑	↑	↑

INDUSTRY COMPETITIVENESS

BC SEAFOOD SUMMIT

Held on May 29, 2001, this summit brought together leaders from British Columbia's commercial fishery and aquaculture sectors, as well as federal and provincial government officials, First Nations and union representatives. The result was the 'Vision for a Modern Seafood Industry' assembled by the BC Seafood Alliance. The vision provides a series of recommendations for government and industry that should increase the total value of seafood produced in British Columbia from $1 billion to $1.5 billion by 2011.
The key principles of the vision include:

- Conservation and sustainable development;
- Earning marketplace recognition for BC seafood products as safe, high quality and environmentally friendly;
- Providing certainty of access, regulation and policy to tenure holders; and
- Developing a united industry.

Eight priority action items were identified including:

- Negotiating co-operative agreements for all of BC's commercial fisheries within five years; and
- Establishing an integrated and consistent federal/provincial policy framework for aquaculture;
- Harmonization of provincial and federal seafood inspection regulations; and
- Implementing performance-based waste management standards for the finfish aquaculture.

BC SEAFOOD ONLINE

(www.bcseafoodonline.com)
Launched in the spring of 2000, BC Seafood Online is a comprehensive reference tool for seafood buyers, processors and government agencies designed to document and inventory the make-up of the seafood industry on Canada's West Coast. A joint venture between several industry and government agencies, the site provides:

- An up to date database of British Columbia's seafood suppliers indexed by species, product form, or company;
- Information on processing capacity by region and processing type; and
- The latest information for industry participants and potential investors to accurately assess new opportunities.

ROUNDTABLE ON HUMAN RESOURCES IN THE BC SEAFOOD PROCESSING INDUSTRY

Initiated by industry, the June 14, 2002 session was sponsored by the BC Ministry of Agriculture, Food and Fisheries and was hosted by the BC Institute of Technology.
The three goals for the roundtable were to:

- Identify the training needs of the BC seafood processing industry;
- Identify the top five issues/challenges associated with the training gaps; and
- Develop strategies to eliminate or reduce the challenges.

The final outcome of the session was the formation of an industry steering committee to look at the information generated at the roundtable and take the next steps in determining how to achieve the training needs of the BC seafood processing industry.

FISHERIES AND AQUACULTURE MANAGEMENT

SHELLFISH AQUACULTURE

Expansion Update

In spring 2000, expansion applications were considered for 68 farm sites in areas around Powell River and Vancouver Island. To date, 37 of these expansion applications have been approved.

Later in the year, 38 applications for new sites were processed with 5 tenures offered. While most shellfish aquaculture expansions and new siting is occurring in the south coast areas of British Columbia, work is underway to expand and develop into the north coast as well.

Geoduck
Technical and economic reports indicate favourable results as to viability of sub-tidal geoduck culture. A grow-out period of eight years is projected. The first experimental commercial harvest will be in 2002.

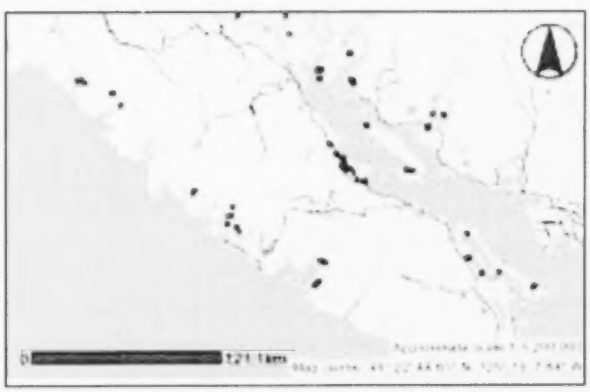
Abalone
Aquaculture projects are in the experimental phase of hatchery and nursery development, adapting and refining abalone technology from countries such as Australia, Japan an the United States.

Savoury (Varnish) Clams
This intertidal clam species is rapidly expanding its range and abundance in the Strait of Georgia and the West Coast of Vancouver Island. A market study was conducted to assist in market development for this new seafood product. Initial response from BC food service industry users has been positive and enthusiastic, but the market demand in response to increased supply is unknown. Savoury clams offer a good opportunity for some growers to increase revenue from their tenures.

Early in 2002, a letter of understanding on savoury clams was signed under a federal/provincial agreement, which allowed commercial harvest of savoury clams to be permitted on clam tenures. An amendment to include savoury clams as a licensed species must be made to the Aquaculture Licence.

AquaWizard

(www.fishwizard.com/aqua/)
Launched in early 2002, the Aquaculture Wizard is a co-operative presentation from the Ministry of Agriculture, Food and Fisheries and DFO. The online maps provide easy and simple access to the most recent information about finfish and shellfish farms in British Columbia. By following a few simple steps, AquaWizard allows creation of maps or summary reports, or viewing of aerial photographs of selected farm sites.



Salmon Aquaculture

Salmon Aquaculture Policy Framework
(www.agf.gov.bc.ca/fisheries/salmon_aqua_policy.htm)
Consisting of five key focus areas including escape prevention, performance-based waste standards, salmon farm siting, fish health and new technologies, this revised provincial policy is designed to establish new environmental standards while bringing greater certainty to the existing salmon farming industry. To enforce compliance with the new standards, farms will see an increase in inspections and random spot audits.

Pilot Project Approval
The Salmon Aquaculture Policy Framework includes incentives to test closed-containment and other green technologies through the award of five saltwater and five freshwater pilot projects. Industry proposed 13 projects, six of which have been chosen thus far, including projects that test new closed-containment systems with waste recovery, new diets that reduce the use of fish meal, land-based containment, a new freshwater site and a freshwater envelope to rear freshwater fry in a marine environment. Several others proposals are still under consideration.

Aquaculture Research and Development

Over the last year, there have been a number of initiatives to co-ordinate, support and conduct aquaculture research and development.

- A British Columbia Aquaculture Research and Development Committee has been established under the Science Council of BC to bring together representatives from industry, federal and provincial governments, academia and environmental interests in order to facilitate high quality, directed research, and to ensure the co-ordination and integration of resources applied to aquaculture research.
- UBC is establishing a Centre for Aquaculture and the Environment located at the Centre of Excellence for Aquaculture at Fisheries and Oceans Canada (DFO) West Vancouver Laboratory.
- An aquaculture and environment fund has been established to support research on sustainability and improved industry management.
- A chair in sustainable aquaculture has been endowed at the University of British Columbia.
- Malaspina University/College has established a Centre for Shellfish Research in cooperation with the BC Shellfish Growers Association.
- The Aquaculture Collaborative Research and Development Program was established, by DFO, to improve aquaculture competitiveness and environmental performance through collaborative cost-shared projects with industry. There have been 13 projects approved in BC worth $2.2 million.

Environmental Sustainability and Resource Development

Tanner "Red Snow" Crab

(www.crabforsale.com)
This experimental fishery that started in 1999 has significant potential. Fish harvesters target the larger male crabs, which are sold as leg and side portions. Focusing on superior quality rather than volume, guidelines for both on-board handling and in-plant quality are laid out in detailed manuals created with extensive input from those involved in the fishery. There is also an upcoming market report, which will detail the profitability and marketability of this deep-water crab.

Inshore Rockfish Conservation

DFO announced that, consistent with scientists' advice, strict management measures would be imposed to lower the exploitation rate on inshore rockfish to less than natural mortality of under 2 per cent per year. Ministry of Agriculture, Food and Fisheries has been directly involved at technical and policy levels, particularly regarding proposed Rockfish Protection Areas. The Province supports that as much as possible, reduced exploitation of inshore rockfish should be shared equally between fisheries, and that Rockfish Protection Areas be phased in.

Canadian Highly Migratory Species Foundation (CHMSF)

The CHMSF is a federally registered, non-profit corporation that will support, fund, and execute scientific research and industry development project for highly migratory fishes in the Pacific Ocean. This work will foster sustainability and growth of the Canadian HMS fishery; results will be widely distributed.

A main focus of the CHMSF will be to raise the awareness of the BC industry, and work collaboratively and jointly with other international foundations, in supporting the development of appropriate science based research projects to the benefit of fish stocks and industry development. Such research would provide the data necessary to support decisions on management of the fishery. The Foundation also plans to address issues such as:

- By catch;
- Product quality;
- Marketing;
- Industry data collection, compilation and analysis; and,
- Provision of scientific support for international representation and treaty obligations

To access a copy of the report "A Review of the Proposed Canadian Highly Migratory Species Foundation" visit the British Columbia Tuna Fishermen's Association web site (www.bctfa.com).

2001 Marine Finfish Inspections

(www.agf.gov.bc.ca/fisheries/aqua_report/index.htm)

With the introduction of new and more stringent regulations that came into effect on October 31, 2000 Ministry of Agriculture, Food and Fisheries inspectors were provided with specific standards and guidelines that could be used to effectively measure the state of industry compliance. Inspectors used standards and guidelines for escape prevention and response, record-keeping, net maintenance, general site operations and compliance with licensing terms and conditions.

Inspections were conducted at all 83 active fish farms during the 2001 inspection cycle. Inspectors encountered an overall state of improvement in compliance compared to the 2000 inspection cycle. The majority of provincial fish farming operators have made adjustments to bring themselves into compliance with the new regulatory requirements, and continual upgrades were noted in the areas of containment system infrastructure, escape procedures, and net quality and equipment design.

New Aquaculture Regulation

Building on a series of amendments introduced in October 2000, a new B.C. Aquaculture Regulation took effect on April 19, 2002. These improvements are part of a broader framework of environmental standards and practices allowing for a managed expansion of salmon aquaculture.

The new regulations, focus on escape prevention, and will help reduce farmers' losses from escapes while increasing public confidence in aquaculture. They will also improve efficiency by ensuring that escape-prevention efforts and resources target areas of farming which, statistically, are most likely to lead to escapes.

Substantive changes include the introduction of:

- New powers allowing provincial aquaculture inspectors to have suspect net cages removed from the water;
- Streamlined record-keeping requirements for salmon farms;
- Increased flexibility around diving requirements that link dive inspections more closely to higher-risk activities or events such as severe storms;
- Requirements for farms to develop best management practices plans to guide routine activities that may lead to escapes;
- Changes to minimum net-strength standards, making them more consistent with other jurisdictions;
- A mandatory net-strength testing protocol, making net-strength requirements more enforceable; and
- Increased emphasis on staff training.

Marine Stewardship Council (MSC) Certification of the BC Salmon Fishery

The MSC has developed an environmental standard for sustainable and well-managed fisheries. It uses a product label to reward environmentally responsible fishery management and practices. International consumers are concerned about the environmental and social consequences of fishing and will increasingly be able to choose seafood products that have been independently assessed against the MSC Standard and labelled to prove it.

The Scientific Panel to assess whether BC commercial salmon fisheries (all five species) meet the MSC standard has been appointed. It is hoped that the certification process will be completed for the 2003 fishing season. Achievement of MSC certification will enable the BC industry to meet the international demand for sustainable seafood products.

We encourage you to send us your comments on this publication and any suggestions for future issues to:

Seafood Development Branch
Ministry of Agriculture, Food and Fisheries
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Victoria, British Columbia, V8W 9M2
Tel: 250 387-1160; Fax 250 356-5099

Additional statistics and information on the fisheries and aquaculture industries of British Columbia can be found on the Ministry of Agriculture, Food and Fisheries web site at *(www.agf.gov.bc.ca)*

Data Sources:

- All wild fisheries landings are provided by the federal Department of Fisheries and Oceans, Pacific Region. (Preliminary values for 1999, 2000 and estimates for 2001 have been adjusted.)
- All seafood finished products and wholesale values as well as aquaculture industry harvests and farmgate values are compiled by the provincial Ministry of Agriculture, Food and Fisheries.

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